

Planting a Seed of Respect

Plants are more alive than people think. This may seem like an odd statement to make about the green companions we see all around, especially when people mainly use plants as a source of nutrition, material resource, and oxygen. This relationship has become the norm, and from it has developed a culture of treating plants as if they exist solely for human use. This has led to environmental unawareness and, dare I say it, widespread disrespect towards the plant community. For this reason, I will elaborate on the intricate systems at work within these organisms that make them so much more alive than they appear. The public must be educated on current environmental risks, as well as the adaptations and dynamic processes occurring within plants, in order for the disrespectful norms of today to change.

Climate change is real, and is having a drastic effect on plant life. Earth's temperatures have been on the rise since the start of the industrial revolution, "with all 10 of the warmest years occurring in the past 12 years" ("Climate Change"). Entire species of plants are at risk of extinction because their natural environment is changing at too rapid of a pace. One prime example of this phenomenon is the Wollemi Pine. This ancient gymnosperm, thought to be extinct, has recently been discovered in two valleys in Australia. The terrible fate of this specimen is solemnly captured by N.S. Leela, that "with increasing human interference on the environment, the rate of extinction of species is exceeding the rate of origin of new species" (43). The Wollemi Pine has ceased to exist beyond these two small gorges due to the changing of Earth's climate. By taking this staggering reality into consideration, people will hopefully begin to understand how their individual choices add to the sum of human actions that are negatively impacting the environment. In order to do so, their individual mindsets towards the plant world

must change as well, transformed by understanding the processes and traits that make these organisms so much similar to us than we would expect.

With the ability to educate the public on the extraordinary abilities that plants are gifted with, it is possible to change the lens through which they are viewed by our society; the common practice of portraying plants as resources and decorations has the potential to be stopped. By becoming mindful of the environment around us, we can remove ourselves from our individualistic routines and begin to relate to the natural world. We can become aware of our surroundings and how they are much more than idle settings for our lives, but rather living canvases of intricate ecosystems and biological relationships. These organisms have abilities that scientists are only just beginning to understand, abilities that have the potential to save human lives. Despite these unique traits, social norms permit that plants be taken for granted. Consider, for example, the definition of the verb “vegetate,” meaning either “to grow in the manner of a plant,” or, “to be passive or unthinking; to do nothing” (“Definition...”). The botanical illiteracy present in society is clear by definition of this word; it associates plant behavior with that of doing absolutely nothing. This is the mindset that must change. Knowledge of plants can elicit a sense of respect towards the natural world that redirects one’s moral compass towards developing plant-friendly lifestyles. With this type of mindset, we can look out on the world with a sense of wonder, amazed by how active and conscious these systems of life truly are.

When beginning to reveal the so-called consciousness of plants, it may be fascinating to discover just how aware these organisms are of their surroundings. To the human passerby, a plant may appear to be doing nothing but sitting and photosynthesizing. Unbeknownst to us, however, it is analyzing and responding to all sorts of environmental factors. Plants have specific

methods of chemical communication, used to interact with “different parts of the same plant, neighbouring but possibly related plants, or plants and the predators or parasites that attack herbivores” (Adler, 161). For example, the invasive species of knapweed has the ability to fight off rival plants with which it is competing for resources. When a neighboring plant’s roots creep in too close, chemicals are released from the knapweed roots that kill the rival root systems (Jensen, 421). While this is only one example, a variety of chemical communication systems exist throughout the botanical world. The sum of these systems relay a massive amount of information to the plant about its environment. This behavior emphasizes the crucial point that these organisms are much more aware than they may appear. This awareness should be taken into consideration when interacting with plants on a daily basis; understand that these are beings with a variant version of consciousness, that deserve a greater sense of respect.

In continuing to build a sense of appreciation and respect for plants, it helps to understand their specific adaptations to their surroundings. This instills both a sense of awe for their unique traits, and a sense of caution as one understands how delicate a species is. You need not look far for a plant family that survives thanks to its special adaptations. In fact, you may happen to find an example of one in your own home, sitting on a sunny windowsill: a cactus!

Cacti are resilient succulents that grow in harsh natural environments that are typically hot, with lots of direct sunlight, and low rates of annual precipitation. In order to survive these arid conditions, cacti have a thick, waxy coating on their epidermis that limits water loss by evaporation. In addition, their stems and leaves fulfill the primary function of water storage. The most impressive adaptation of all, however, is a special systematic practice called crassulacean acid metabolism, also known as CAM (Bell 206). Upon opening of the stomata, an uneven

exchange of water and CO₂ occurs: water molecules are much smaller than CO₂ molecules, and thus much more water escapes the cell than the amount of CO₂ that enters. This effect is amplified during the heat of day. For these reasons, plants initiate CAM photosynthesis, in which “the stomata open during the night and less water is lost during these cooler hours. The CO₂ that enters during the nightly opening is converted to organic acids that are stored in the vacuole of the cell until they are used during photosynthesis in the day” (Bell 206). This strategic opening of the stomata at times when water loss can be minimized is essential to the survival of these succulents. Being aware of these fantastic adaptations, an individual can see a cactus, not as a decorative object, but as an active, living organism. It is the knowledge of these adaptations that instills a fascination with this plant family that goes beyond its aesthetically pleasing appearance. This can serve as an example for how incredible all plants are, actively engaged in their surroundings at a level that demands a greater respect than is currently present.

Plants are functioning bodies of life. It has been demonstrated that they are very much present and active in their daily processes. It is disrespectful and insensitive to the nature found on this planet to view plants as lifeless, expressionless green formations that are here only for the sake of human use. Through this mental reconstruction of understanding the natural world, the social norms of society can change. By generating environmental and biological awareness, people can begin to adopt sustainable living habits. If this mindset does not change, if the knowledge of how adapted yet fragile these organisms are is not attained, then the world will continue to suffer from the universal issues that result from plant ignorance.

Works Cited

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